

### ABSTRACT

The invention relates to a system and method for use in a homogeneous charge compression ignition (HCCI) combustion engine that is preferably equipped with an exhaust gas recirculation device. This system and method enable an improved adjustment of the temperature level inside the combustion chamber. In addition to adjusting the temperature by using the exhaust gas recirculation device, an influencing of the temperature, which is independent thereof, ensues based on the compression of the induced fresh air by the exhaust gas turbocharger. An increase in temperature is maintained even after the compressed air is expanded on a throttle valve, and this increase in temperature can, in the end, be used for influencing the energy content inside the combustion chamber.